

Transportation Asset Management International Scanning Tour

Canada – Edmonton, Alberta (Friday, April 8, 2005)

Basic facts

<http://www.cia.gov/cia/publications/factbook/geos/ca.html>

Alberta Infrastructure and Transportation

Transportation Business Plan 2004-07

<http://www.finance.gov.ab.ca/publications/budget/budget2004/trans.pdf>

Other useful links:

City of Edmonton Home Page

<http://www.edmonton.ca/portal/server.pt>

Alberta Infrastructure and Transportation Home Page

<http://www.inftra.gov.ab.ca/> > <http://www.inftra.gov.ab.ca/>

Government of Alberta Home Page - About Alberta

<http://www.gov.ab.ca/home/index.cfm?Page=2>

Alberta 2003 Official Population List

<http://www.municipalaffairs.gov.ab.ca/ms/pdf/2003pop.pdf>

Government of Alberta Strategic Business Plan

<http://www.finance.gov.ab.ca/publications/budget/budget2004/govbp.html>

Alberta Transportation Annual Report (2003-04)

<http://www.trans.gov.ab.ca/Content/doctype508/production/transanrep.pdf>

Alberta Transportation Ministry Structure as at April 2004

<http://www.trans.gov.ab.ca/About/Organization.asp>

Capital Planning Initiative Final Report (2002-03)

<http://www.trans.gov.ab.ca/Content/doctype52/production/cpi.htm>

Future Highway Needs - A 10 Year View of Alberta's Transportation Needs

<http://www.trans.gov.ab.ca/Content/doctype523/production/pol288.htm>

Presentations to the Team

Alberta Infrastructure and Transportation (AIT)

Department Overview, Organization and Drivers for Asset Management – Rob Penny, Assistant Deputy Minister, Transportation and Civil Engineering

Capital Planning Initiative and Asset Management in Alberta – Jay Ramotar, Deputy Minister, AIT

Applications – Transportation Infrastructure Management System (TIMS), GIS, Pavement, Bridge and Network Expansion Management Systems –
Touraj Nasserri - TIMS Program Director
Eric Solomonson – Director, Highway Geomatics
Allan Kwan – Executive Director, Technical Standards
Tom Loo – Director, Bridge Engineering
Wei He - Pavement Management Specialist

Executive Reporting: Business Plan and Performance Measurement
Roy Jurgens – Director, Highway Asset Management

Integrated Data Collection
Eric Solomonson – Director, Highway Geomatics

City of Edmonton

City Overview, Organization and Drivers for Asset Management
Rick Millican - General Manager, Transportation and Streets Department

Strategic Asset Management for Municipal Infrastructure
Theresa Cloake - Infrastructure Analyst, Office of Infrastructure, Asset Management and Public Works Department.

Communications: Council Presentations, Infrastructure Technical Advisory Committee (ITAC)
Theresa Cloake

Municipal Pavement Management Application
Paul Szczepanski – General Supervisor, Infrastructure Transportation and Streets Department
Al Cepas – Pavement Management Engineer, Infrastructure Transportation and Streets Department

Tools for Asset Management: Ratings, Life Cycle cost Analysis & Risk Assessment -
Theresa Cloake

Preliminary Observations
Alberta Infrastructure and Transportation (AIT)

Assets:

- 26,000 km paved highway
- 4600 km unpaved roads
- 3870 bridges
- 150 water management facilities
- 510 km of irrigation canals
- 1860 government owned buildings
- 310 leased buildings

Reported replacement value

- Roads \$25.6 b
- Bridges \$2.9 b

Fiscal position

- Variable resource revenues
- Focus on debt retirement
- Pent up demand for infrastructure
- Surplus - \$4b – debt free

TIMS – A strategic tool

- What is the TIMS Vision?
 - “Web-based dynamic knowledge management system that enables AIT to deliver maximum life-long socio-economic value for investments in highway assets.”
- What is the Current Version of TIMS?
 - Suite of 20 software applications
 - Developed in house by a team of in house IT experts and business experts
 - Covers about 1/3 of the assets of the province.
 - Users concurrent training to ensure effective and timely knowledge transfer.
- What does TIMS do?
 - Single comprehensive current and reliable sources of data/information/experts
 - Rigorous Engineering-economic-environmental evaluations of projects and programs.
 - Enables collaboration
 - Enhances the management of outsourced projects.
- What value does TIMS deliver?
 - A series of modules that forms the interface to TIMS Knowledge Network (people) and serves as a transportation knowledge portal to users (including public)

- Includes a feedback mechanism
- Components – data applications, decisions applications

City of Edmonton

Inventory

- 4,322 km paved roads
- 357 unpaved
- 4,541 km sidewalks
- 90,968 streetlights
- 1,080 traffic signals
- 122,188 signs
- 3,375 parking meters

Is the level of investment adequate?

- Gap – not adequate given the life.

Solution

- Comprehensive inventory
- Tools
- Revenue
- Land drainage utility
- Debt management
- Infrastructure technical advisory committee

Lessons learned

- Asset Management is critical
- Costs \$s to implement
- Pay me now or pay me later (later costs a lot more)
- Inaction now costs more than in the future.

Communications includes

- Mayor
- Council
- Public at large
- Surrounding municipalities
- National organizations

Involved developing several strategies.

Tools:

- Standardized ratings – used a translator to A, B, C, D, and F ratings

- Life cycle costing at the strategic level – used by mobile equipment service. Council sees it as a hoax to get money up front. Ralph, Lynne and Susan did a report that provided a generic protocol.
- Risk assessment – 155 different deterioration curves with Markov analysis.
 - Impacts with weights – safety and public health (55%), growth (11%), environment (20%), Preservation (20%), service to people (16%)
 - Two modes of failure – sudden/unexpected failure, anticipated/gradual failure
 - Subjective evaluation
 - Assess level of risk
 - Estimate expected failures
 - Determine impact of failures
 - Calculate severity (threshold 200)
 - Benefits
 - Quantitative approach
 - Identify infrastructure areas with emerging issues and the need to increase inspection and assessment programs
 - Identify areas that involve significant exposure to the city

Pictures



The Team at Work



Presentation from the City of Edmonton



The Team at Work --- still

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